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Larvicidal and Biopotential Activity of *Bacillus thuringiensis* from Soil against Mosquito Larvae

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A vital challenge for attaining successful mosquito control is overcoming insecticide resistance. The potential of *Bacillus thuringiensis* isolated from different soil samples as control strategy of mosquitoes and monitoring of larvae susceptibility was investigated in this research. Larvicidal activity of *Bacillus thuringiensis* on mosquito larvae was estimated by isolating them from soil habitat at Thrithala. The confirmation of the isolated organism *Bacillus thuringiensis* was based on screening on MYP agar base media and molecular identification using PCR (16s rRNA technique). Four samples of *Bacillus thuringiensis* obtained from the soil sample labelled as S1, S2, S3, S4 were used for the purpose of study. The larvicidal activities (which were measured by mortality rate) were observed at 0.5ml, 1ml, 2ml concentrations and at intervals of 1, 2, 6, 12, 36, 48 hours on the mosquito larvae. The S3 isolate caused 100% mortality of the larvae at highest concentration of 2ml at 36 hours while 100% mortality was recorded in other concentrations at 48 hours. From this study it is concluded that *Bacillus thuringiensis* is a very potent bio larvicide that brings about mortality of mosquito larvae at a short duration of time.

Keywords: *Bacillus thuringiensis*, Larvicidal activity, Mosquito larvae, MYP agar base media, PCR